Ormandy Rycroft

Heating & Cooling Solutions

Made in the UK

Evoplate Family

Hot Water on Demand

Evoplate,
Twin Evoplate
& Evostore

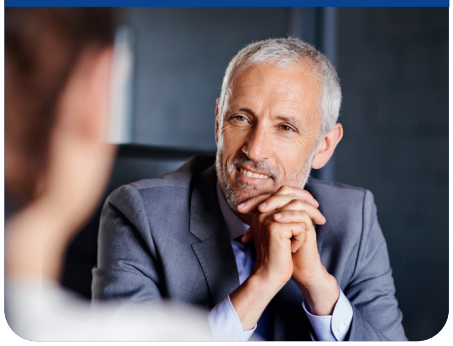
Leading the Field in Innovative Technology

Contents

Our team at Ormandy Rycroft are dedicated to customer service and will advise you on the most efficient solution bespoke to your individual requirements.

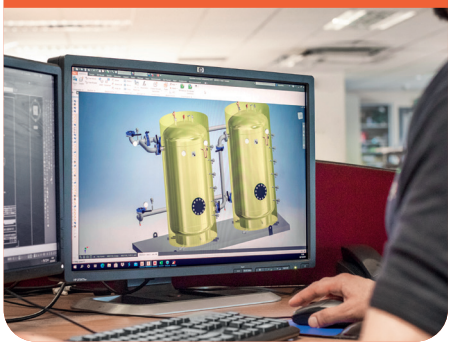
As a leading manufacturer of Instantaneous Water Heaters and Commercial Heating & Cooling Solutions, we pride ourselves on our industry knowledge and the high standards and expertise you expect from an industry leader!

Consultation



Advice from our experienced Sales Team across the UK

Bespoke Design



Tailored engineering Design Specification & Development

Every Industry

From HEVAC to Process, we cover all Industry Sectors

Manufacturing Excellence

Leading the field in Innovative Engineering Solutions

Aftercare

Reliable Commissioning, Maintenance and Servicing

Our technical knowledge is second to none and we take pride in nurturing and growing our relationship with customers through advice and support prior, during and after installation.

At Ormandy Rycroft, nothing is standard. From our service to you, to the quality control on our products, we aim to exceed your expectations at every stage of the process.

Our manufacturing facilities are world class and we are one of only a handful of companies who have the ability to manufacture both copper and copper lined vessels, as well as high specification stainless steel vessels for industries requiring a more specialised design for Process Solutions.

Whatever your heating and cooling needs are, you won't make a better start by making Ormandy Rycroft your first port of call.

Evoplate - Semi-Instantaneous Hot Water System Benefits

The Ormandy Rycroft EVOPLATE is a compact, highly efficient packaged water heating system, typically capable of supplying 3000 - 6000* litres per hour of continuous hot water at 60/65°C, as well as meeting peak demands in excess of the rated input duty.

Ideal for DHW applications, when using renewables with a primary source, delivering above 63°C at all times.

The system comprises of stored water volume, instantaneous brazed plate heat exchanger, domestic circulating pump, flow regulator and direct acting primary temperature controller. Supplied ready fitted, it is easy to install.

Features & Benefits

- **Reduced hot water storage** of up to 75% less then a traditional storage calorifier **AND** still meets peak demand.
- Supplying **3,000-6,000* litres per hour, continual output** of hot water at 60°C **AND meet peak demands** in excess of the rated input duty.
- **Compact design** ideal for plantrooms with limited space.
- **High heat transfer co-efficients** when compared with traditional storage calorifiers.
- **Flexible storage buffer and heat exchanger** selection to optimise equipment selection.
- Integral dual action domestic water pump ensures **constant flow** through the exchanger and **reduced risk from i.e., legionnaire's disease**.
- **Reduced downtime** and maintenance.
- **Factory tested** and ready to install.
- **Fully compliant** with L8 and the PE(S)R/PED
- Available in **copper/316 stainless steel/LDX stainless steel & copper lined**
- Available as a **sectional vessel**. Ideal for **restricted access**.
- **Unvented kits / shell fittings** and cold feed fittings, are all available, either supplied loose or on a fully skid mounted package.

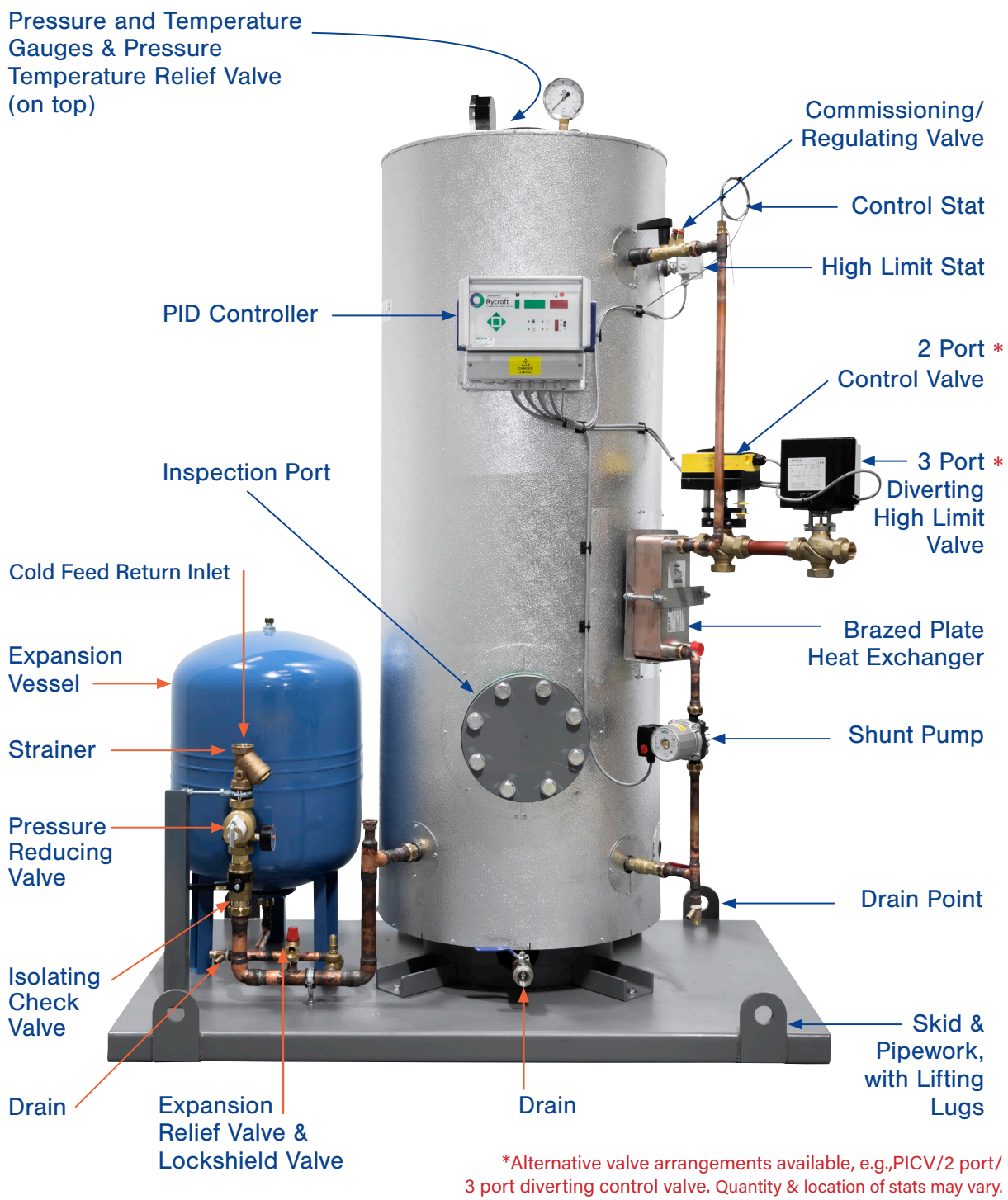
*** Lower and higher ratings can be considered.**

Applications

- Hotels
- Office Blocks
- Care Homes
- Hospitals
- Schools & Colleges
- Universities
- Sports Centres
- Prisons
- Student Accomodation
- Mixed Use Developments

Image of sectional vessel

Evoplate - Dimensions & Packaged Unit



Vessel Dimensions Only		
Volume (Litres)	**Overall Width (mm)**	**Overall Height (mm)**
300	760	1430
500	835	1840
800	910	2253
1000	960	2475
1500	1060	2850
2000	1210	2875

Dimensions include:

80mm insulation (Aluminium Stucco Clad with Mayplas Insulation) - Part L compliance and ringstand/feet (for the body of the vessel to be housed on).

Note, the above are "recommended" sizes (within the 2:1 - 3:1 ratio). If you need another size, please speak to one of our team, who will be happy to assist.

Clearances to allow for:

Ideally, additional 500mm around the vessel, (for access), and 350-400mm above the vessel.
If space is limited, the design can be modified.

Evoplate (Typically 65/60°C**, e.g,. renewables)

Performance Data Sheet - Based on 5ΔT on Primary

300 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**69.8**	**34.9**	**23.3**	**17.4**	**8.72**
	Primary Flow Rate	kg/s	3.33	1.67	1.11	0.83	0.42
	Sec Instantaneous Flow Rate	kg/s	0.33	0.17	0.11	0.08	0.04
	20 min Peak Sec Flow Rate	kg/s	0.53	0.37	0.31	0.28	0.24
500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**116.3**	**58.2**	**38.8**	**29.1**	**14.54**
	Primary Flow Rate	kg/s	5.56	2.78	1.85	1.39	0.69
	Sec Instantaneous Flow Rate	kg/s	0.56	0.28	0.19	0.14	0.07
	20 min Peak Sec Flow Rate	kg/s	0.89	0.61	0.52	0.47	0.4
800 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**		**93**	**62**	**46.5**	**23.3**
	Primary Flow Rate	kg/s		4.44	2.96	2.22	1.11
	Sec Instantaneous Flow Rate	kg/s		0.44	0.3	0.22	0.11
	20 min Peak Sec Flow Rate	kg/s		0.98	0.83	0.76	0.64
1000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**		**116.3**	**77.5**	**58.2**	**29.1**
	Primary Flow Rate	kg/s		5.56	3.7	2.78	1.39
	Sec Instantaneous Flow Rate	kg/s		0.56	0.37	0.28	0.14
	20 min Peak Sec Flow Rate	kg/s		1.22	1.04	0.94	0.81
1500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**			**116.3**	**87.2**	**43.6**
	Primary Flow Rate	kg/s			5.56	4.17	2.1
	Sec Instantaneous Flow Rate	kg/s			0.56	0.42	0.21
	20 min Peak Sec Flow Rate	kg/s			1.56	1.42	1.21
2000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**			**155.1**	**116.3**	**58.2**
	Primary Flow Rate	kg/s			7.41	5.56	2.78
	Sec Instantaneous Flow Rate	kg/s			0.74	0.56	0.28
	20 min Peak Sec Flow Rate	kg/s			2.07	1.89	1.61

*Note: The above data, doesn't account for the secondary losses. Therefore, performance will be affected. If the losses are high, the design may also change.

*** Other temperature profiles are available.*

Evoplate (Typically 70/60°C**, e.g,. boilers)

Performance Data Sheet - Based on 10ΔT on Primary

300 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**69.8**	**34.9**	**23.3**	**17.4**	**8.72**
	Primary Flow Rate	kg/s	1.67	0.83	0.56	0.42	0.21
	Sec Instantaneous Flow Rate	kg/s	0.33	0.17	0.11	0.08	0.04
	20 min Peak Sec Flow Rate	kg/s	0.53	0.37	0.31	0.28	0.24
500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**116.3**	**58.2**	**38.8**	**29.1**	**14.54**
	Primary Flow Rate	kg/s	2.78	1.39	0.93	0.69	0.35
	Sec Instantaneous Flow Rate	kg/s	0.56	0.28	0.19	0.14	0.07
	20 min Peak Sec Flow Rate	kg/s	0.89	0.61	0.52	0.47	0.4
800 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**186.1**	**93**	**62**	**46.5**	**23.3**
	Primary Flow Rate	kg/s	4.44	2.22	1.48	1.11	0.56
	Sec Instantaneous Flow Rate	kg/s	0.89	0.44	0.3	0.22	0.11
	20 min Peak Sec Flow Rate	kg/s	1.42	0.98	0.83	0.76	0.64
1000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**232.6**	**116.3**	**77.5**	**58.2**	**29.1**
	Primary Flow Rate	kg/s	5.56	2.78	1.85	1.39	0.69
	Sec Instantaneous Flow Rate	kg/s	1.11	0.56	0.37	0.28	0.14
	20 min Peak Sec Flow Rate	kg/s	1.78	1.22	1.04	0.94	0.81
1500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**		**174.5**	**116.3**	**87.2**	**43.6**
	Primary Flow Rate	kg/s		4.17	2.78	2.08	1.04
	Sec Instantaneous Flow Rate	kg/s		0.83	0.56	0.42	0.21
	20 min Peak Sec Flow Rate	kg/s		1.83	1.56	1.42	1.21
2000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**		**232.6**	**155.1**	**116.3**	**58.2**
	Primary Flow Rate	kg/s		5.56	3.7	2.78	1.39
	Sec Instantaneous Flow Rate	kg/s		1.11	0.74	0.56	0.28
	20 min Peak Sec Flow Rate	kg/s		2.44	2.07	1.89	1.61

*Note: The above data, doesn't account for the secondary losses. Therefore, performance will be affected. If the losses are high, the design may also change.

*** Other temperature profiles are available.*

Evoplate (Typically 80/60°C or 70/50°C**, e.g,. boilers, & renewables)

Performance Data Sheet - Based on 20ΔT on Primary

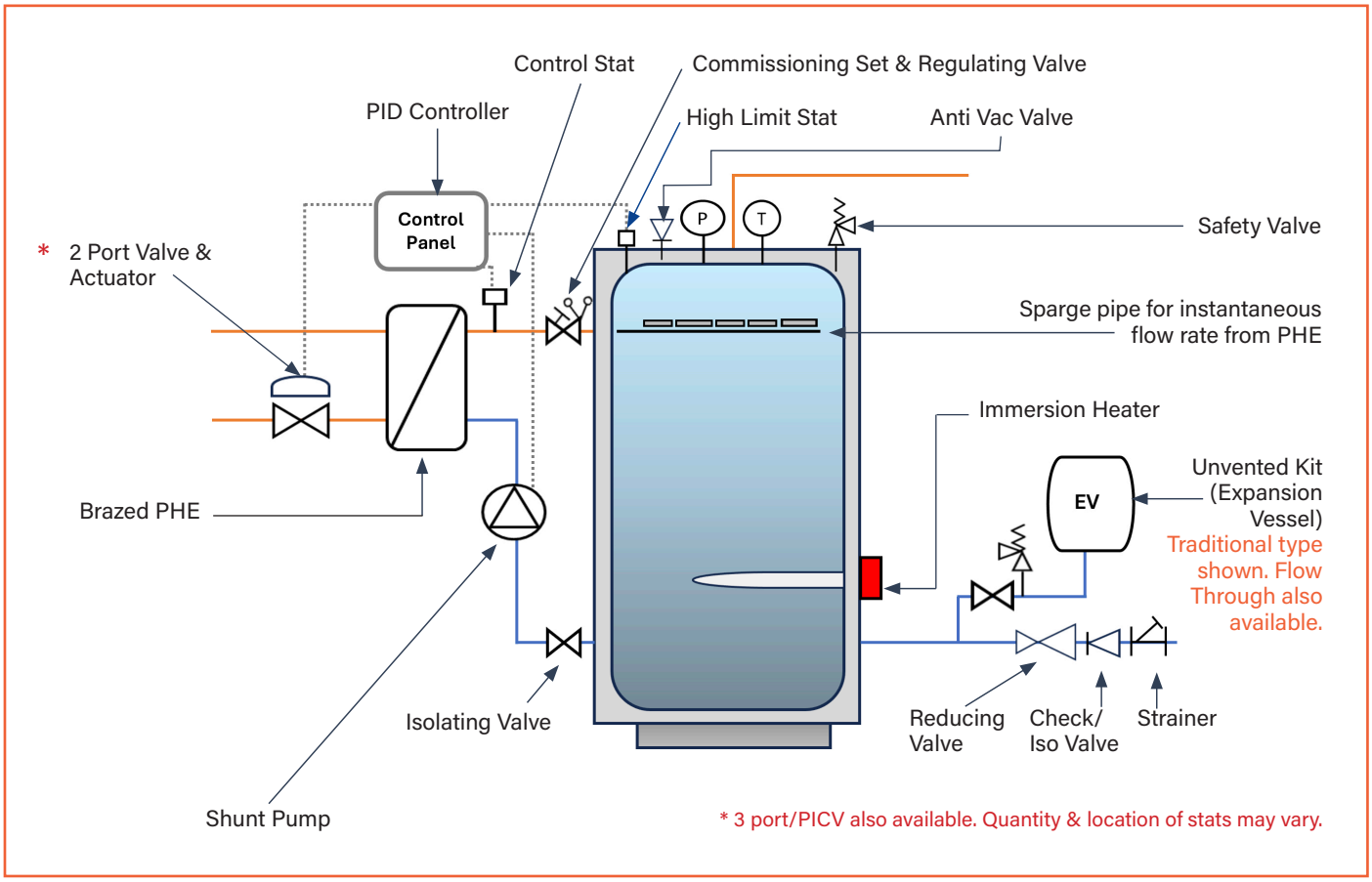
300 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**69.8**	**34.9**	**23.3**	**17.4**	**8.72**
	Primary Flow Rate	kg/s	0.83	0.42	0.28	0.21	0.1
	Sec Instantaneous Flow Rate	kg/s	0.33	0.17	0.11	0.08	0.04
	20 min Peak Sec Flow Rate	kg/s	0.53	0.37	0.31	0.28	0.24
500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**116.3**	**58.2**	**38.8**	**29.1**	**14.54**
	Primary Flow Rate	kg/s	1.39	0.69	0.46	0.35	0.17
	Sec Instantaneous Flow Rate	kg/s	0.56	0.28	0.19	0.14	0.07
	20 min Peak Sec Flow Rate	kg/s	0.89	0.61	0.52	0.47	0.4
800 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**186.1**	**93**	**62**	**46.5**	**23.3**
	Primary Flow Rate	kg/s	2.22	1.11	0.74	0.56	0.28
	Sec Instantaneous Flow Rate	kg/s	0.89	0.44	0.3	0.22	0.11
	20 min Peak Sec Flow Rate	kg/s	1.42	0.98	0.83	0.76	0.64
1000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**232.6**	**116.3**	**77.5**	**58.2**	**29.1**
	Primary Flow Rate	kg/s	2.78	1.39	0.93	0.69	0.35
	Sec Instantaneous Flow Rate	kg/s	1.11	0.56	0.37	0.28	0.14
	20 min Peak Sec Flow Rate	kg/s	1.78	1.22	1.04	0.94	0.81
1500 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**348.9**	**174.5**	**116.3**	**87.2**	**43.6**
	Primary Flow Rate	kg/s	4.17	2.08	1.39	1.04	0.52
	Sec Instantaneous Flow Rate	kg/s	1.67	0.83	0.56	0.42	0.21
	20 min Peak Sec Flow Rate	kg/s	2.67	1.83	1.56	1.42	1.21
2000 Litres	**Recovery**	mins	15	30	45	60	120
	Duty	**kW**	**465.2**	**232.6**	**155.1**	**116.3**	**58.2**
	Primary Flow Rate	kg/s	5.56	2.78	1.85	1.39	0.69
	Sec Instantaneous Flow Rate	kg/s	2.22	1.11	0.74	0.56	0.28
	20 min Peak Sec Flow Rate	kg/s	3.56	2.44	2.07	1.89	1.61

*Note: The above data, doesn't account for the secondary losses. Therefore, performance will be affected. If the losses are high, the design may also change.

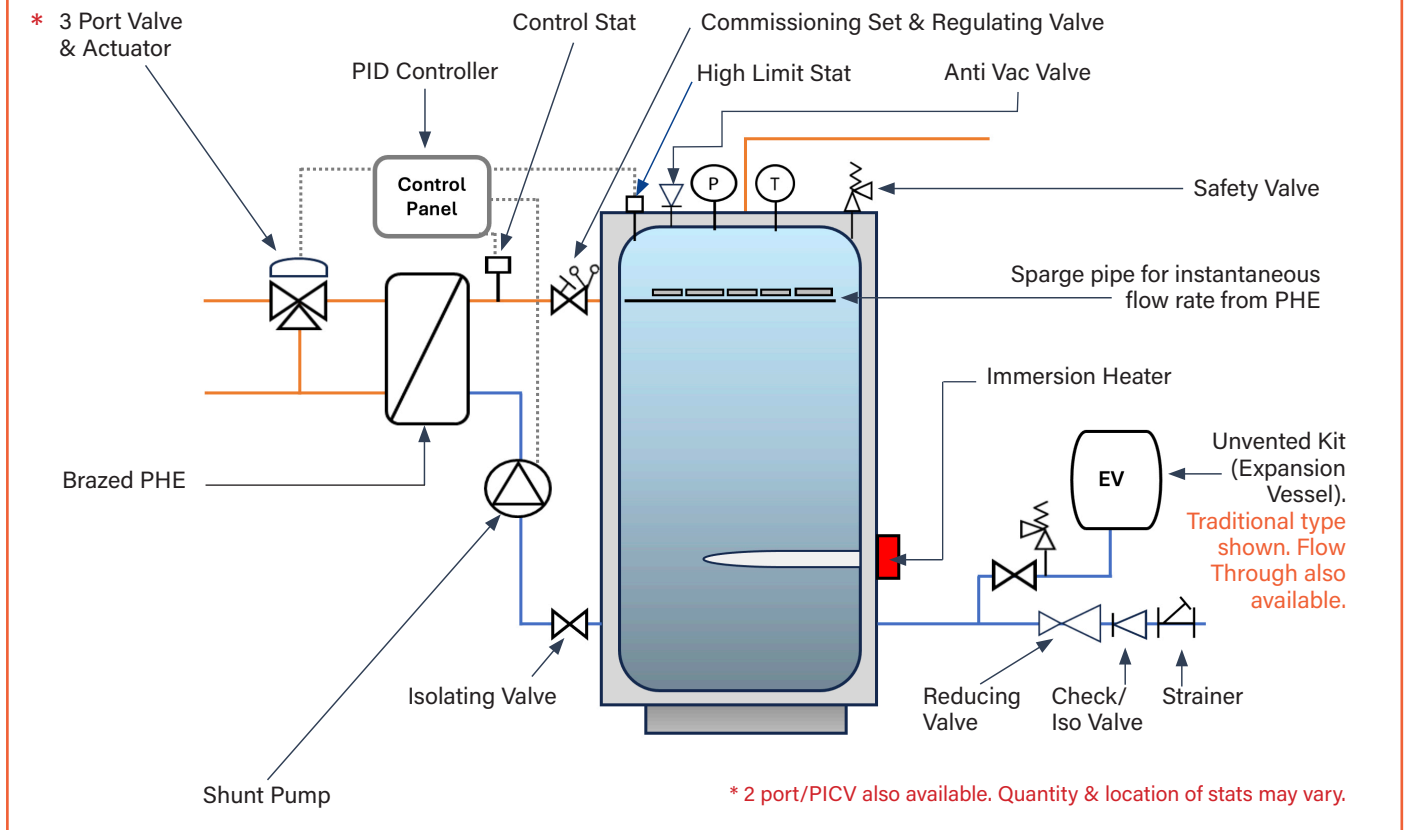
*** Other temperature profiles are available.*

Evoplate - Simplified Schematics

Schematic Arrangement - 2 Port



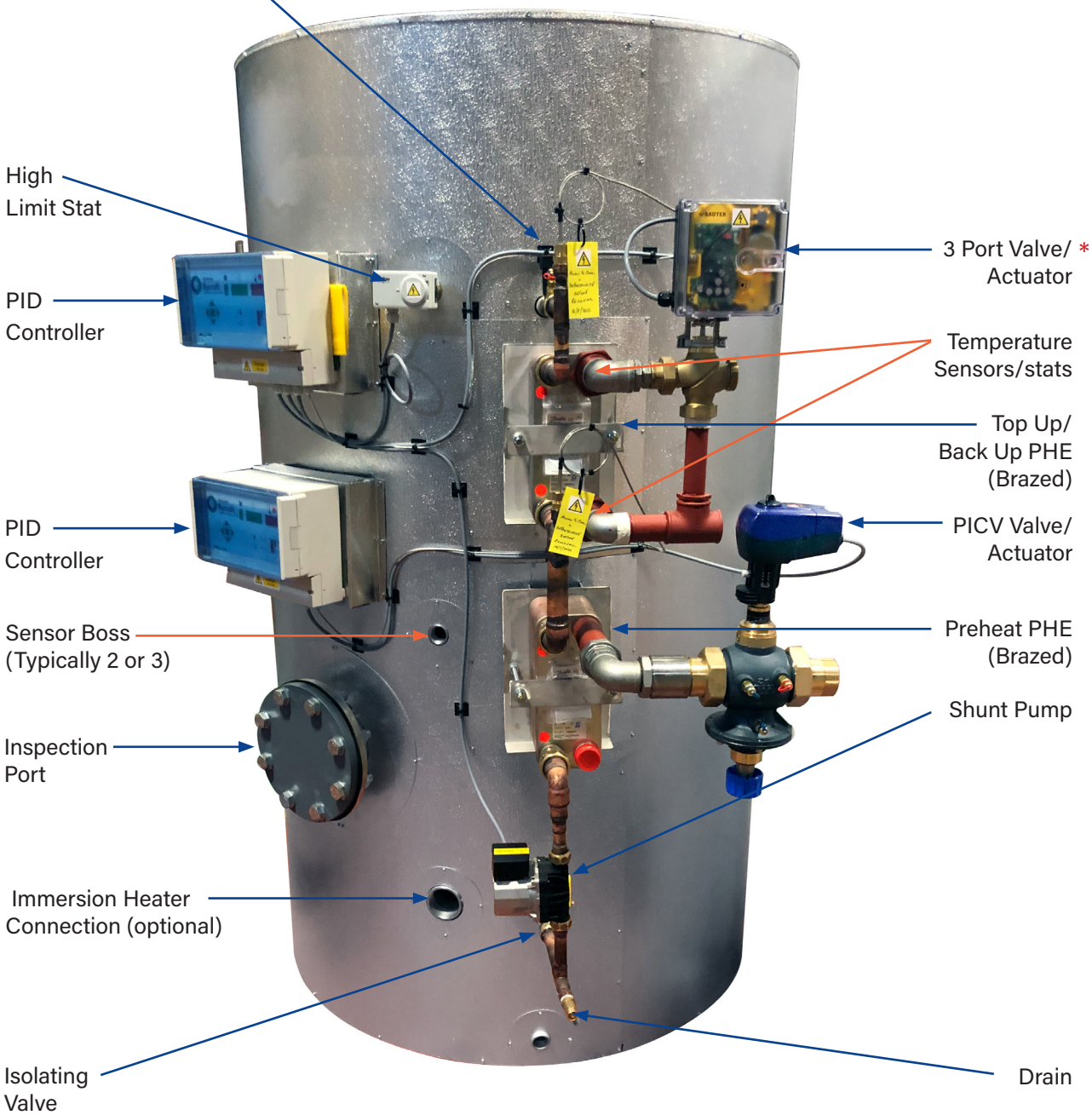
Schematic Arrangement - 3 Port



Twin Evoplate

The Twin Evoplate is a new addition to the Evoplate family.

It can be used in various scenarios to aid in the production of hot water by utilising two primary sources, via the two brazed plates attached to the side of the DHW vessel.



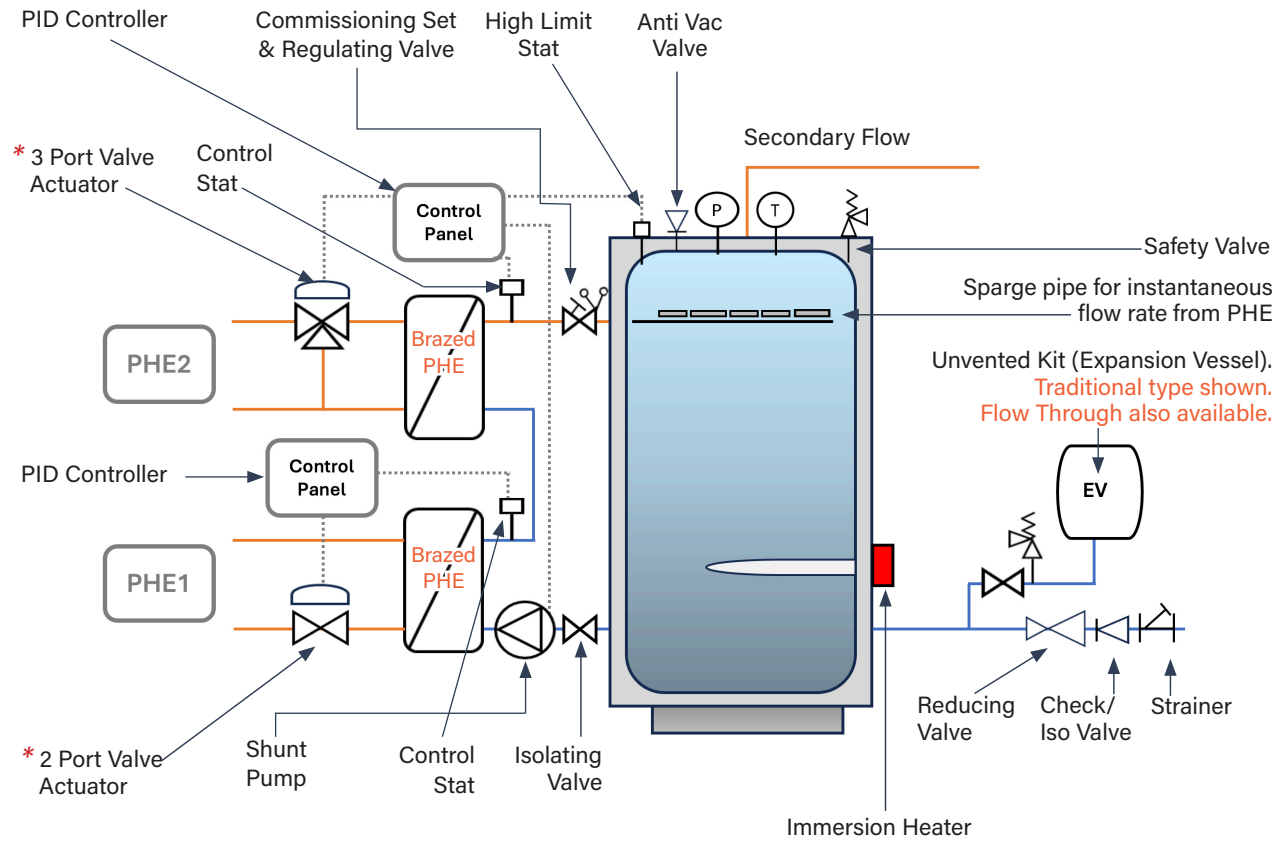
*Alternative valve arrangements available, e.g.,PICV/2 port/ 3 port diverting control valve. Quantity & location of stats may vary.

Twin Evoplate - Primary Heating Source, Duty & Standby, Pre-Heat and Top Up.

These primary sources can include:

Heating Source	PHE 1	PHE 2
Low temperature ASHP	✓	×
Solar	✓	×
VRF Heat Recovery	✓	×
High Temperature ASHP	✓	✓
Water Sourced Heat Pumps	✓	✓
Boilers	✓	✓
Ground Source Heat Pumps	✓	×

When high temperature sources aren't available for PHE's, electrical sources, such as a flow heater can be utilised.



(PICV Valves also available). Quantity & location of stats may vary.

Popular designs for the Twin Evoplate

Duty and Standby

Example: Solar panels (PHE1) is sized to do a full load for the system. Heating the water from 10°C - 60°C. When the solar can't achieve the demand, the high temp ASHP (PHE2) can be utilised to top up the temperature required.

PHE2, is also sized to do the full load, if the solar wasn't available.

Pre-Heat and Top Up/Full Load

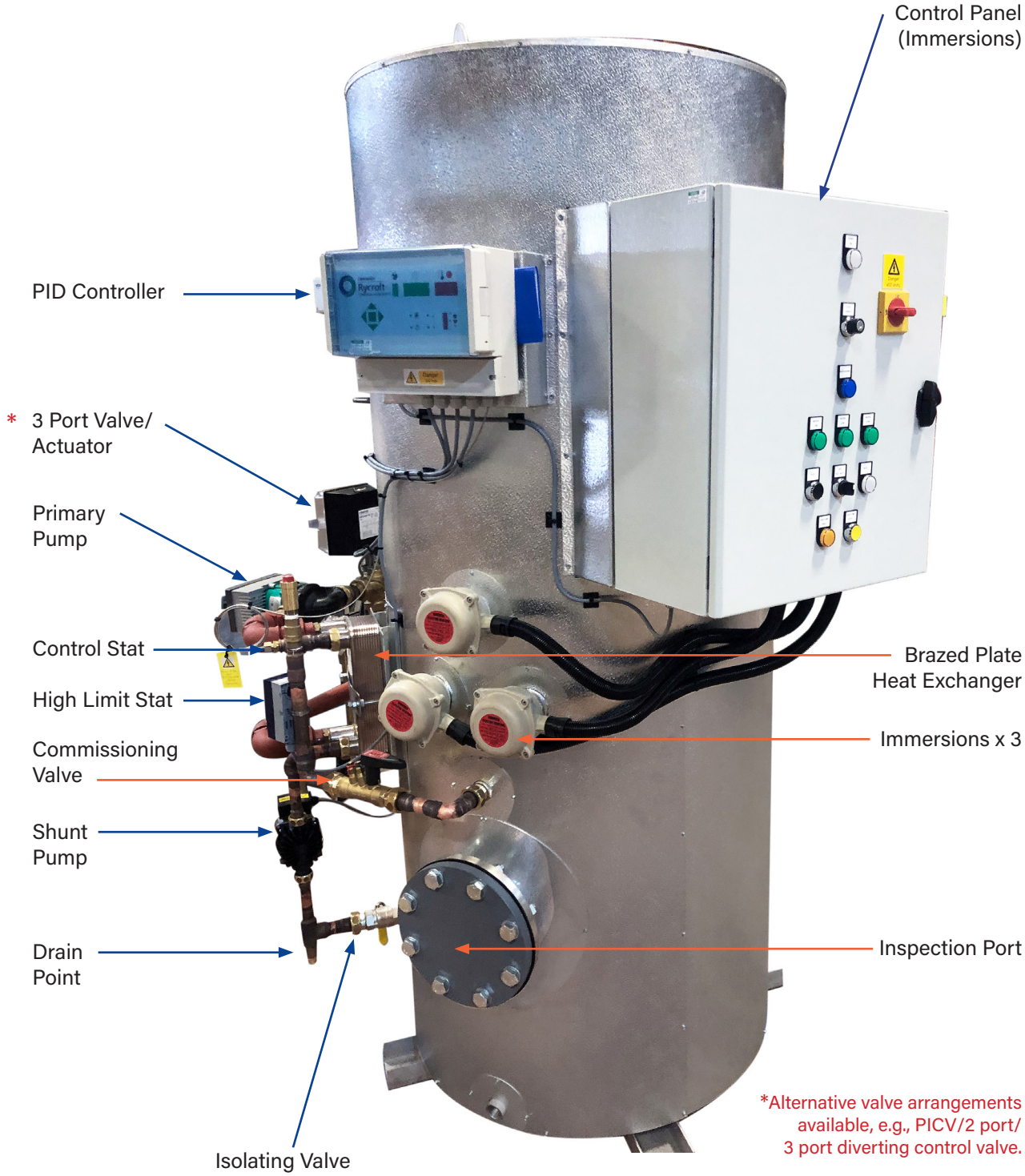
Example: Low temp ASHP (PHE1) pre-heats the cold water from 10°C - 40°C. Boiler (PHE2) then tops up the temperature from 40°C - 60/65°C.

PHE2 can also be sized to do the full duty, if low temperature ASHP was down for maintenance.

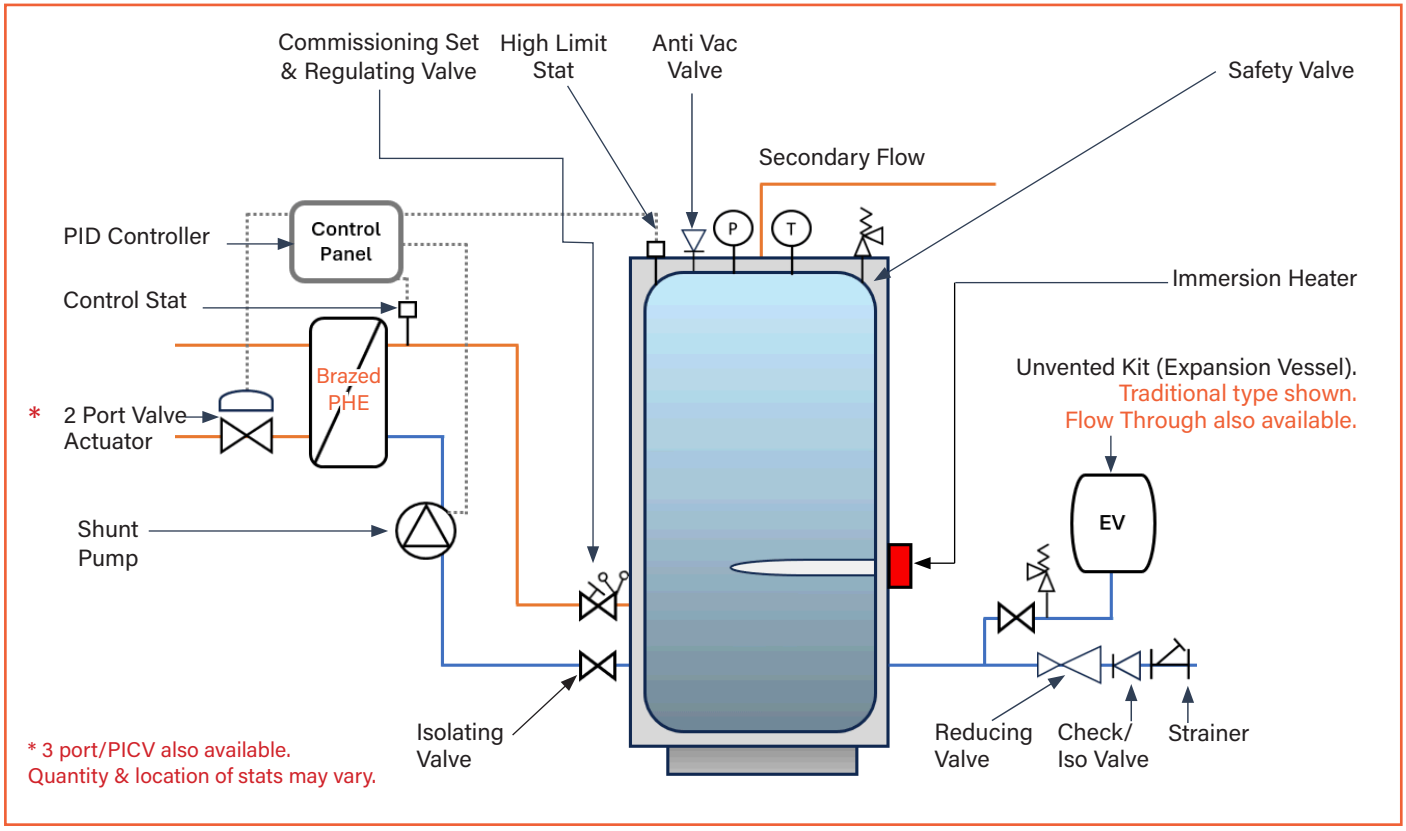
Evostore

The Evostore is a Hot Water Solution similar to the Evoplate, however unlike the Evoplate where Semi-Instantaneous Hot Water is available via the Plate Heat Exchanger, the Evostore is a Storage Option which can be used when:

- The Primary Source has a Low Temperature Output and requires Immersions for Top Up to 60/65°C Storage Temperature
- Replacing Existing Storage Calorifiers that have Coils or Bundles.

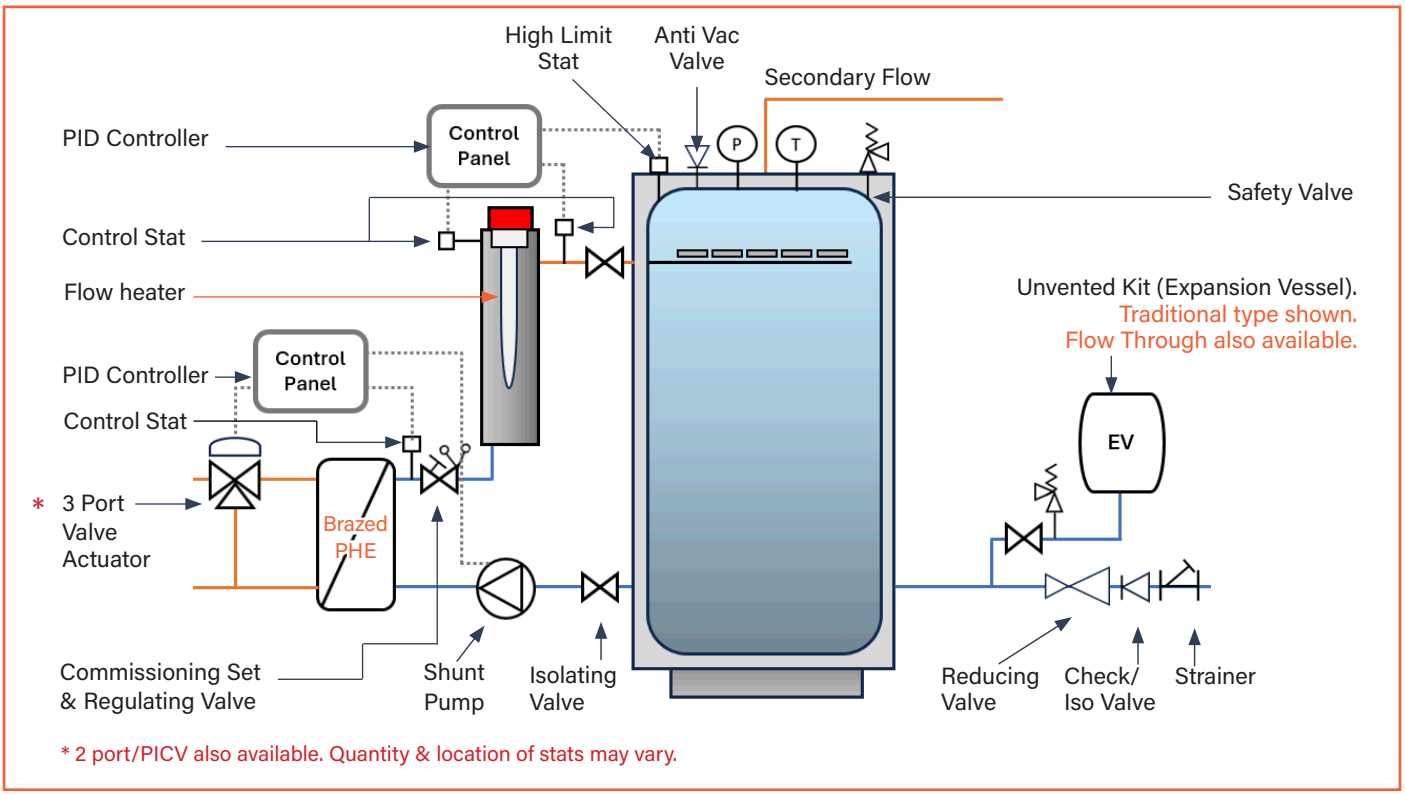


Evostore - Simplified Schematics



Evoplate & Flow Heater - Simplified Schematics

An alternative option to the Evostore when working with Low Temperature Primary Sources is to use an Evoplate with a Flow Heater, an inline Immersion Heater. By using this method instead of using Immersions to heat up the stored water in the vessel, the Flow Heater can be installed inline after the PHE, which heats up the water before getting to the vessel. This enables the solution to give Semi-Instantaneous Hot Water, resulting in lower duties than the standard immersion, whilst also reducing the stored volume, making it a more efficient and potentially compact system.



Twin Evoplate - Optional Extras & Accessories

Shell Fittings

PTRV

Pressure Gauge

Temperature Gauge

Anti Vacuum Valve

Drain Assembly

Cold Feed Fittings

Pressure Reducing Valve

Strainer

Isolating Valve *

Single Check Valve *

Combined Valve

* On smaller applications, these are a combined valve.

Unvented Kit

Lockshield

Standard Expansion Vessel*

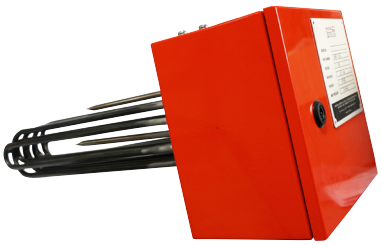
Expansion Relief Valve

*Flow through Expansion Vessels also available

Electric Flow Heaters

Immersion Heaters

Available in Single or Three Phase 3kW - 54kW



Skid & Pipework

Carbon steel base plinth that houses the Packaged PHE/ Buffer Vessel and Expansion Vessel with all pipework pre-piped.

Evoplate with Unvented Kit on Skid & Pipework

Spares & Service

Spares and annual servicing are available for all our vessels. Contact our Service Department for more details on:

spares@ormandygroup.com or
service@ormandygroup.com

Everything we make is "bespoke", so we can adapt each package to suit the application if required.

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Here at Ormandy Rycroft Engineering, we have a wealth of experience in our talented sales and engineering team.

This is our Sales team, who work tirelessly to ensure your project runs to plan.

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